

NOTES ON *HOVEA* R.Br. (FABACEAE): 5

by

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ABSTRACT

Ross, J. H. Notes on *Hovea* R. Br. (Fabaceae): 5. *Muelleria* 7(3): 349–359 (1991). — The name *H. purpurea* Sweet is currently misapplied. The name *H. purpurea* Sweet applies to the taxon hitherto known as *H. beckeri* F. Muell., and the name *H. pannosa* Cunn. ex Hook. is to be used for the widespread polymorphic taxon hitherto known as *H. purpurea*.

THE APPLICATION OF THE NAME *HOVEA PURPUREA* SWEET

Sweet (1827) indicated in the protologue of *H. purpurea* that “Our drawing of this beautiful new species was taken in May last, at the Nursery of Messrs Whitley, Brames, and Milne, at Fulham, where it was raised from seed, sent by Mr Charles Frazer (*sic*), from New South Wales; and we have seen fine flowering specimens of it in Mr. Lambert’s Herbarium, that were also sent by Mr. Frazer. It is the finest species of the genus that we have yet seen, excepting *H. Celsi* (*i.e.* *H. elliptica*), and differs from all others that we are acquainted with in bearing purple flowers.” There is no means of knowing whether the description in the protologue was based solely on the plant in cultivation or whether it was based in part also on the specimens Sweet saw in Lambert’s herbarium. However, as the specimens were included in his concept of the species they are significant from the point of view of the typification of *H. purpurea*.

Sweet believed that his *H. purpurea* differed in having purple flowers from all other species with which he was acquainted, whence the specific epithet. The generic diagnosis of *Hovea* in the protologue was copied almost exactly from De Candolle (1825) and Sweet cited De Candolle’s Prodrômus which suggests that he must have been aware of all of the species treated by De Candolle. De Candolle enumerated *H. longifolia* R. Br., *H. linearis* (Smith) R. Br., *H. lanceolata* Sims, *H. elliptica* (Smith) DC., *H. latifolia* Lodd. ex DC., *H. celsi* Bonpl. (a synonym of *H. elliptica*) and *H. chorizemifolia* DC.

The illustration (t. 13) is good and the description is fairly comprehensive. Given the difficulties in differentiating some of the taxa in *Hovea*, the description and the plate were studied very closely to establish whether they contain diagnostic information that enable the name *H. purpurea* to be applied with certainty. The colour of the flowers, a character to which Sweet attached so much significance, is not diagnostic and does not help to identify his species.

Sweet’s Latin diagnosis is as follows:

“*H. purpurea*, ramis erectis ferrugineo-tomentosis, foliis oblongo-linearibus obtusis mucronulatis margine revolutis supra glabris reticulato-venosis subtus tomentosis, stipulis subulatis minimis, pedunculis axillaribus geminis, bracteis duobus calyci proximis tertia remotis, calyce ferrugineo-tomentoso”.

This diagnosis is supplemented by an English description and relevant supplementary information is as follows:

1. the leaves are “rigid, smooth, channelled,.... on the upper side, underneath clothed with a dense wool, which is more or less ferruginous, particularly on the midrib,...”
2. “Bractes 3, oblong, obtuse, concave, ferruginous, 2 of them close to the calyx, the other about half way down the peduncle”.

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3. "Vexillum broader than long, emarginate, with rather a slender unguis,..."
4. "Alae or wings spathulate, concave, with a long blunt ear at the base, more than half the length of the slender unguis."
5. "Keel nearly as long as the wings, sharp, and flat towards the point, where it is very dark purple, but lighter below, also with two long ears at the base nearly half the length of the slender unguis."

As Fraser collected the seed from which the plant illustrated in '*Fl. Australasica*' was grown, and also the specimens seen by Sweet in Lambert's herbarium, it is essential to have some indication of the areas of New South Wales visited by Fraser prior to 1827. Fraser accompanied Oxley's three expeditions in the years 1817, 1818 and 1819 (Froggatt, 1932). The 1817 expedition started from Bathurst and explored the marshy lands of the Lachlan River, returning to Bathurst via the Wellington valley. On the 1818 expedition Fraser collected in New England and along the course of the Hastings River. The 1819 expedition surveyed Port Macquarie and the Hastings River. During his years in New South Wales Fraser also made short collecting forays into the country around Sydney.

As *H. purpurea* is currently understood, the name is applied to one of the most widespread and polymorphic *Hovea* species in eastern Australia. Specimens included in the current concept of *H. purpurea* (for the purposes of this discussion only the variation encountered within the areas from which Fraser could have collected seed or specimens is regarded as falling within the range of *H. purpurea*) differ from the plant illustrated and described in the protologue in the following significant respects:

1. The stipules are conspicuous, 1.5–4 mm long, and not minute as described in the protologue.
2. The bract and bracteoles are acute apically and not obtuse as described. Furthermore, the bract and bracteoles are subulate and not oblong and neither are they concave. Although the bract may be about halfway down the pedicel, it is more usually inserted a little distance under the bracteoles.
3. The auricle on the wing petal is not of the proportions described by Sweet, at least not on any flowers that I have examined.
4. Likewise, I have not observed any keel petal with an auricle of the proportions described by Sweet. Sweet described the keel as being nearly as long as the wings. In *H. purpurea*, as currently understood, the keel petals usually vary from about three quarters to four fifths the length of the wings.

If the plant illustrated and described in the protologue was a specimen of the taxon to which the name *H. purpurea* is currently applied, the above differences are surprising. What is equally surprising is that no specific mention was made in the protologue of the characteristic dense spreading villous hairs on the young shoots, lower surface of the leaves, stipules and on the pedicels. Indeed, the hairs on the pedicel are usually so dense that they obscure the pedicel and make the bract and bracteoles difficult to see. As the current concept of *H. purpurea* does not accord very well with the protologue, this suggests that the name is misapplied.

In view of the suspected current misapplication of the name *H. purpurea*, the identity of the specimens seen in Lambert's herbarium assume great significance. Unfortunately Lambert's herbarium was dispersed after his death and the difficulties associated with trying to locate material that formerly was part of his herbarium are well documented (Miller, 1970). Bentham's (1863) lament concerning Australian species described from material in Lambert's herbarium is as true now as it was then. In response to my request, Mrs K.L. Wilson examined copies of the catalogue at BM and K relating to the sale of Lambert's herbarium. The relevant Lot would appear to be Lot 288, a mixed bundle of Australian collections which named Fraser as one of the collectors represented. The copy of the catalogue in BM annotated at or after the sale has the names of the buyers written in the margins. Lot 288 was purchased by Lemann whose herbarium was presented upon his death to CGE in accordance with his wishes.

The copy of the catalogue in the K archives (bound with the Hooker correspondence with Dawson Turner) was the one sent to Turner and, according to Hooker's accompanying letter, he annotated with the letter "H" those Lots which "I have reason to believe I possess from the same source or nearly of the same kind from other sources". There is a letter "H" against Lot 288.

In response to requests, searches were made on my behalf in all of the herbaria reported by Chaudhri *et al.* (1972) to contain material from Lambert's herbarium, and in some other herbaria besides. No *Hovea* specimens forming part of Lambert's herbarium were located in B, BR, E, F, FI, G, GH, HBG, L, LE, LINN, M, MASS, MO, NY, OXF, P, PH, PR, US or W.

I have succeeded in tracing only three *Hovea* specimens that formed part of Lambert's herbarium. One is in Bentham's Herbarium at K and is labelled by Bentham "*Hovea longifolia* R. Br. Nov. Holl. Lambert 1832". It is not known who collected this specimen but it is mounted to the right of a specimen of *H. longifolia* collected by R. Cunningham. The specimen from Lambert's herbarium is typical of *H. longifolia* and the long narrow leaves are quite unlike those illustrated for *H. purpurea* in t.13. It is very unlikely that Sweet would have included a specimen of *H. longifolia* in his concept of *H. purpurea*.

There are in CGE two specimens collected by Fraser which formed part of Lambert's herbarium and came to CGE as part of Lemann's herbarium. One is a flowering specimen of *H. rosmarinifolia* and by no stretch of the imagination is it conceivable that Sweet would have included the specimen in his concept of *H. purpurea*. The second is a flowering specimen of *H. lanceolata* which is labelled in Bentham's hand "ex herb Lambert *Hovea obtusifolia* Sweet ex D Don" (this is a manuscript name). One wonders when Sweet applied this epithet to the specimen thereby indicating that it did not correspond with his *H. purpurea*. It is within the realms of possibility that this is one of the specimens referred to in the protologue of *H. purpurea* by Sweet. This raises the possibility that Sweet included discordant elements in his circumscription of *H. purpurea*. Given the confusion that has existed in this genus almost from the time that the first species was described, this would not be surprising. Of the three *Hovea* specimens I have seen that formed part of Lambert's herbarium, this specimen of *H. lanceolata* is the one that could most easily have been included by Sweet in his concept of *H. purpurea*. There are at BM three specimens and at K one specimen of *H. lanceolata* collected by Fraser but no indication that any of them formed part of Lambert's herbarium. The specimen at K and two of those at BM are reminiscent of the specimen in CGE and it is not inconceivable that they are duplicates. The occurrence of a specimen at K supports Hooker's contention that he had duplicates of many of the Australian specimens offered for sale in Lambert's herbarium.

Unfortunately it has not been possible to locate a specimen collected by Fraser from Lambert's herbarium of the taxon to which the name *H. purpurea* is currently applied, or, more importantly, that matches the protologue. Lambert was generous by nature and during his lifetime gave away many specimens. Usually these would have been duplicates but on occasions it is known that he gave away unique specimens (Miller, *l.c.*). During Lambert's later life he apparently repeatedly asked Hooker to make selections of whatever species he wished from his collections. David Don, while in charge of Lambert's herbarium, may have loaned or given away specimens with or without Lambert's knowledge. In short, almost anything could have happened to specimens that Sweet saw in Lambert's herbarium. In the absence of any specimens from Lambert's herbarium that match the protologue of *H. purpurea*, there is no means of establishing with certainty the identity of the specimens that Sweet saw. All that can be stated is that a specimen of *H. lanceolata* collected by Fraser from Lambert's herbarium exists at CGE and that other specimens of *H. lanceolata* collected by Fraser exist at BM and at K. The possibility exists that one of the specimens seen by Sweet may have been *H. lanceolata*.

It is difficult to assess the probability that a specimen of *H. lanceolata* was included by Sweet in his concept of *H. purpurea*. *H. lanceolata* is a widespread and variable species, but, like the taxon to which the name *H. purpurea* is currently applied, differs in significant respects from Sweet's protologue. The stipules in *H. lanceolata* are minute as described in the protologue but they are not subulate and the leaves are usually narrow-ovate and not linear-oblong as stated in the protologue of *H. purpurea*. The bract and bracteoles illustrated in t. 13 are significantly larger and of a different shape from those of *H. lanceolata* and the shape and size of the corolla of *H. lanceolata* differs from the description given for *H. purpurea*.

There is a specimen at BM of *H. acutifolia* collected by Fraser, but, once again, no indication that it formed part of Lambert's herbarium. In any event, the distinctive leaf shape makes it unlikely that Sweet would have included the specimen in his concept of *H. purpurea* even if it had formed part of Lambert's herbarium.

The inability to locate with certainty the Fraser specimens that Sweet saw in Lambert's herbarium means that reliance has to be placed entirely on Sweet's illustration and description in interpreting *H. purpurea*. This is unfortunate given the difficulties of identification in *Hovea*. However, it so happens that the protologue is adequate to positively identify the taxon to which the name *H. purpurea* should be applied. There is only one taxon in New South Wales in which the keel petals are consistently nearly as long as the wing petals and that is the taxon for which the name *H. beckeri* is being used currently (Ross, 1988). The description in the protologue of *H. purpurea* matches what is currently referred to as *H. beckeri* in almost every respect.

The leaves are much as described by Sweet except that the upper surfaces were described as glabrous. The leaves in *H. beckeri* are usually glabrous apart from some hairs along the midrib. This discrepancy does not appear to be of much significance. The plant described by Lindley (1831) under the name *H. purpurea* was said to have leaves with glabrous upper surfaces and yet the specimen in CGE upon which the description was based quite clearly has hairs along the midrib. The venation on the upper surface of the leaves in *H. beckeri* is not unduly prominent but conspicuous enough to have warranted comment by Sweet. The stipules are minute and subulate as described although sometimes they are narrow-ovate rather than subulate. The description of the bract and bracteoles falls within the range of variation found within *H. beckeri*. The bracts and bracteoles in *H. beckeri* are large as illustrated and vary from oblong, obovate-oblong, obovate to ovate, are usually obtuse apically although occasionally subacute, and are concave or sometimes somewhat cymbiform and match very well those illustrated in t. 13, fig. 1. The bract is usually inserted close under the bracteoles but may be halfway down the pedicel as described in the protologue. Sweet described the standard as "broader than long". The standard illustrated in t. 13 is actually as broad as long and not broader than long. In *H. beckeri* the standard is usually longer than broad. The auricles on the wings are large and, as already mentioned, the keel petals are almost as long as, or sometimes longer than, the wings. Although no scale is given in t. 13, the dissections appear to be life-size and show clearly the keel petals as long as the wing petals and the long stamen-filaments. Significantly, *H. beckeri* grows within the areas of New South Wales visited by Fraser.

The consequence of this finding is that the name *H. purpurea* must now be used for the taxon hitherto known as *H. beckeri*, and another name must be found for the widespread taxon until now known as *H. purpurea*. In the absence of any specimens, I here select t. 13 in Sweet (1827) as the LECTOTYPE of *H. purpurea*.

The plant illustrated and described under the name *H. purpurea* by Lindley (1831) belongs to the same taxon as that to which Sweet applied the name. Fortunately a fragment of the specimen from the nursery of Messrs. Low & Co. of Clapton upon which Lindley's plate and description were based was preserved by

Lindley and is to be found in CGE. Although of no significance from the point of view of the typification of *H. purpurea*, this specimen in CGE is nominated as a "representative specimen" of my understanding of *H. purpurea* should any difficulty be encountered in applying the name *H. purpurea*.

The taxon to which the name *H. purpurea* must now apply has a sporadic distribution in New South Wales and occurs also in South Australia and Victoria. It seems a quirk of fate that this plant was described by Sweet rather than the widespread and polymorphic species to which the name *H. purpurea* has been misapplied and which would have been so much more readily available and easy for Fraser to collect.

The misapplication of the name *H. purpurea* Sweet appears to date from J. D. Hooker's '*Fl. Tasmaniae*' (1856). Hooker noted under *H. purpurea* "I have not united *H. purpurea* with *H. lanceolata*, though quite unable to trace any character by which the originally described and figured specimens may (without fruit) be distinguished." Hooker's note is indicative of the difficulties experienced in applying names in *Hovea* last century, something that has persisted to the present day.

The next name available for the taxon until now known as *H. purpurea* is *H. pannosa*. When describing *H. pannosa*, W.J. Hooker (1831) adopted A. Cunningham's manuscript name. The plant illustrated was raised at the Botanic Gardens, Kew, from seed collected by Cunningham north of Bathurst and sent in 1823 and the description was based on Cunningham's specimens collected in New South Wales and on the plant in cultivation. It is surprising that W.J. Hooker made no mention whatsoever of *H. purpurea* in the protologue. Instead, he stated that *H. pannosa* approached *H. linearis*, a species that is far more readily distinguished from *H. pannosa* than is *H. purpurea*. Presumably Hooker was confident *H. pannosa* represented a taxon so distinct from *H. purpurea* that there was no need to mention the species. It seems improbable that he was unaware of it. There are at K two sheets of Cunningham material labelled *H. pannosa*. One sheet consisting of two twigs presented by the Linnean Society is labelled "Country N. of Bathurst, N.S.Wales Dec. 187/1822". The other, which formed part of Herbarium Hookerianum, bears three twigs and three labels. The large specimen on the right bears a label which reads "on brushy barren hills East of [?] N. of Bathurst" and pencilled alongside it on the sheet is "Hook. bot. mag. tab. 3053". The specimen on the left has written beneath it "*Hovea pannosa* All. Cunnm.". The lower central specimen has smaller leaves and a slightly different appearance. In BM there are two sheets collected by Cunningham labelled "187 North of Bathurst, New South Wales A. Cunningham 1822" and a duplicate in NSW from the BM is labelled similarly. In W there is a specimen labelled "*Hovea pannosa* Cunn. Bot. Mag. Interior of N.S.Wales 1822". These four specimens resemble the larger right hand specimen on the sheet in Herbarium Hookerianum. All of the above specimens are here regarded as SYNTYPES of *H. pannosa*. The flowering specimen mounted on the left hand side of the sheet in Herbarium Hookerianum, which resembles the specimen illustrated in t. 3053, is here selected from among the syntypes as the LECTOTYPE of *H. pannosa*.

It is unfortunate in some respects that the name *H. pannosa* must be applied to the taxon until now known as *H. purpurea* as the name *H. pannosa* has been misapplied over the years to another taxon [*H. planifolia* (Domin) J.H. Ross] from southern Queensland (Ross, 1989).

HOVEA PURPUREA SWEET

Hovea purpurea Sweet, *Fl. Australasica* t.13 (1827). Lindley in Edwards, *Bot. Reg.* 17: t.1423 (1831). LECTOTYPE (here selected): *Fl. Australasica* t. 13.

Hovea beckeri F. Muell., *Linnaea* 25: 391 (1853). LECTOTYPE (here selected):

Mt Remarkable, South Australia, Oct. 1851, *F. Mueller* (MEL 106347).

H. longifolia R. Br. var. *lanceolata* (Sims) Benth., Fl. Austral. 2: 173 (1864) *pro parte quoad* syn. *H. beckeri*.

H. longifolia R. Br. var. *pannosa* (Cunn. ex Hook.) Benth., Fl. Austral. 2: 173 (1864) *pro parte quoad* syn. *H. purpurea* Sweet.

H. longifolia R. Br. var. *longifolia sensu* Weber in Jessop & Toelken (eds), Fl. S. Australia 2: 693 (1986) *pro parte quoad* specim. S. Austral.

Shrub to 3 m high, usually multistemmed; branchlets densely clothed with coiled or curled appressed hairs through which scattered longer hairs project or the majority of hairs spreading somewhat, hairs white, grey or tawny. *Leaves* spreading; lamina more or less flat on upper surface on either side of the depressed midrib and the margins slightly recurved, narrow-ovate, elliptic or oblong, 1.2–7 cm long, 0.4–1(–1.7) cm wide, apex obtuse or acute, usually with a short mucro, upper surface dark green, glabrous apart from hairs along the midrib and sometimes occasional scattered hairs elsewhere, venation not unduly prominent, lower surface densely clothed with coiled or curled white or tawny hairs which obscure the surface completely, venation not prominent; petiole 0.2–0.65 cm long, pubescent like the branchlet. *Stipules* narrow-ovate or subulate, 1–2 mm long, 0.5–0.75 mm wide, densely pubescent externally, sometimes reflexed. *Inflorescence* axillary, sessile, mostly 2-flowered. *Flowers* pedicellate, the pedicels 1.5–2.5 mm long, densely pubescent like the branchlet; bracteoles obovate-oblong, oblong or obovate, 2.5–4 mm long, 1.5–2.2 mm wide, obtuse or sub-acute apically, inserted at or a short distance below the calyx, much shorter than to slightly longer than the calyx-tube, densely clothed with appressed to somewhat spreading hairs externally, sometimes glabrescent; bract broadly ovate, ovate or occasionally obovate, 2.2–3.5 mm long, 1.8–3.5 mm wide, often almost cymbiform, obtuse or acute and sometimes slightly reflexed apically, inserted immediately below to 1.5 (very occasionally to 2.5) mm below the bracteoles, glabrescent internally. *Calyx* densely clothed with coiled or curled and scattered longer straighter hairs or sometimes the longer hairs predominant: 2 upper lobes 5.2–8.5 mm long including the tube 2.5–6 mm long, the 3 lower lobes 2–3 mm long, 1.7–2 mm wide. *Standard* 11.5–17 mm long including a basal claw 3–5.5 mm long, 10–15 mm wide, usually longer than wide (occasionally as wide as long), pale to deep mauve or lilac blue with a greenish-yellow basal flare, occasionally white; wings 10.3–15.5 mm long including a basal claw 3–5 mm long, 3.5–4.5 mm wide; keel petals 9.6–15.2 mm long including a claw 3.5–5 mm long, almost as long as to longer than the wings, 3.5–4.5 mm wide. *Stamen-filaments* 8.5–16 mm long, usually persisting and conspicuous after the corolla has been shed. *Ovary* sessile or almost so, 2–3 mm long, 2-ovulate, pubescent; style 8–14 mm long. *Pods* sessile or almost so, obliquely ovoid or ellipsoid, 1–1.7 cm long, 0.8–1.1 cm wide, densely clothed with appressed hairs externally when young, densely clothed with whitish hairs within. *Seeds* elliptic, plump, 5.5–7 mm long, 3.5–4.5 mm wide, 3.2–3.5 mm thick, olive to blackish-brown, hilum linear, the aril about half as long as or longer than half the length of the seed, orange, with a very small raised lateral lip. (Fig. 1)

H. purpurea has a disjunct distribution with two main centres of development, one in the Flinders Ranges in South Australia from Saint Marys Peak in the north to Mt Remarkable in the south, and the other in eastern New South Wales and far east Gippsland in Victoria. In New South Wales the species occurs sporadically in the Tablelands from Mt Kaputar National Park, the vicinity of Armidale and the Warrumbungles southwards to Bondi State Forest and Nalbaugh National Park near the Victorian border.

There are in MEL three specimens collected by Mueller labelled as having come from the headwaters of the Upper Genoa River but it was felt initially that they were just as likely to have come from New South Wales as from Victoria. There is also a specimen labelled "Head of the Genoa River Victoria" collected by

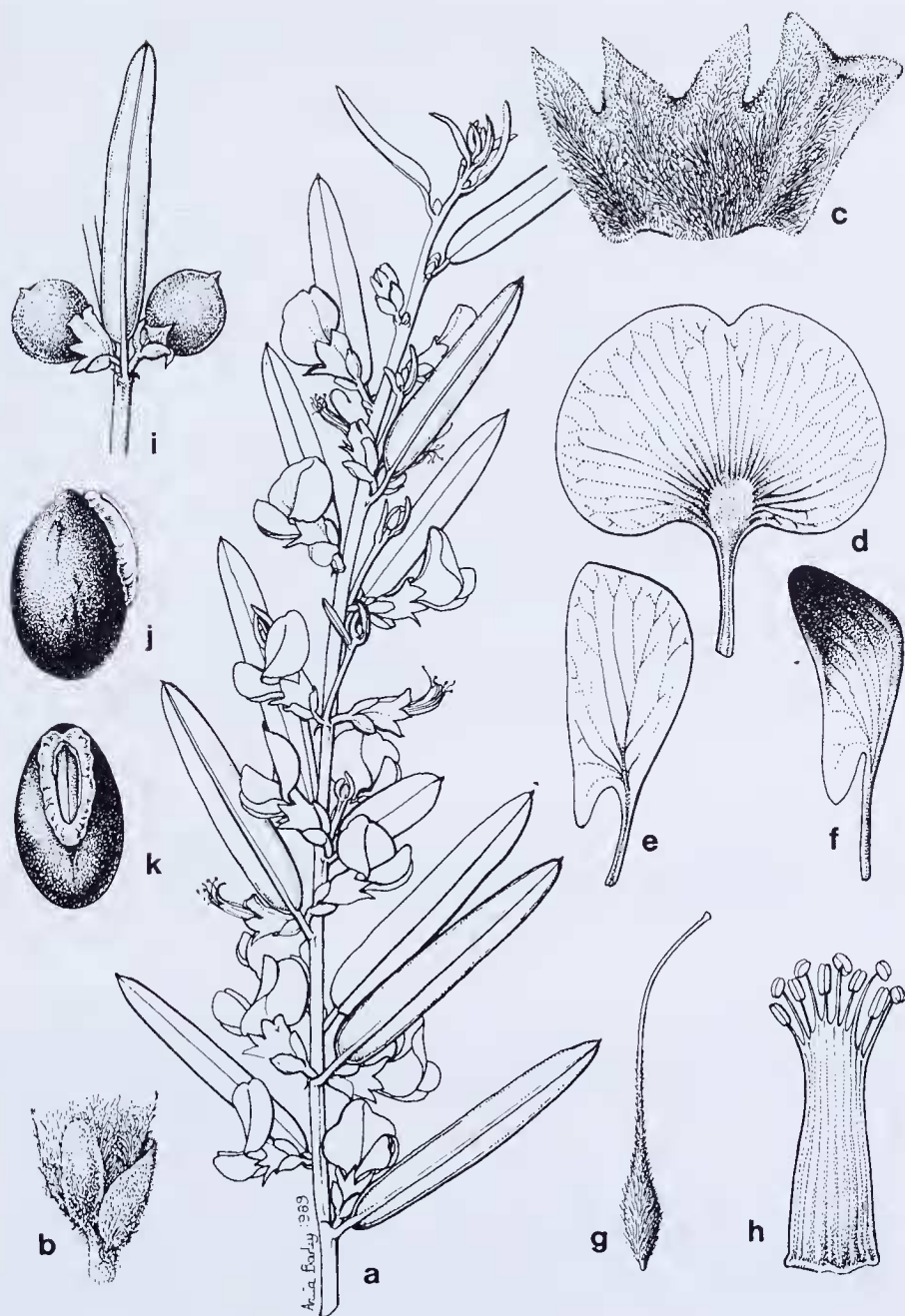


Fig. 1. *Hovea purpurea*. a — flowering twig, $\times 1$. b — portion of pedicel showing the basal bract inserted below the bracteole, $\times 4$. c — calyx opened out (upper lobes on right), $\times 4$. d — standard, $\times 4$. e — wing petal, $\times 4$. f — keel petal, $\times 4$. g — gynoecium, $\times 4$. h — staminal tube opened out, $\times 4$. i — fruiting twig, $\times 1$. j — seed, side view, $\times 5$. k — seed, hilar view, $\times 5$. a — h from D.E. Albrecht 964 (MEL), i from D.E. Albrecht 2320 (MEL), j & k from N. Wakefield 4508 (MEL).

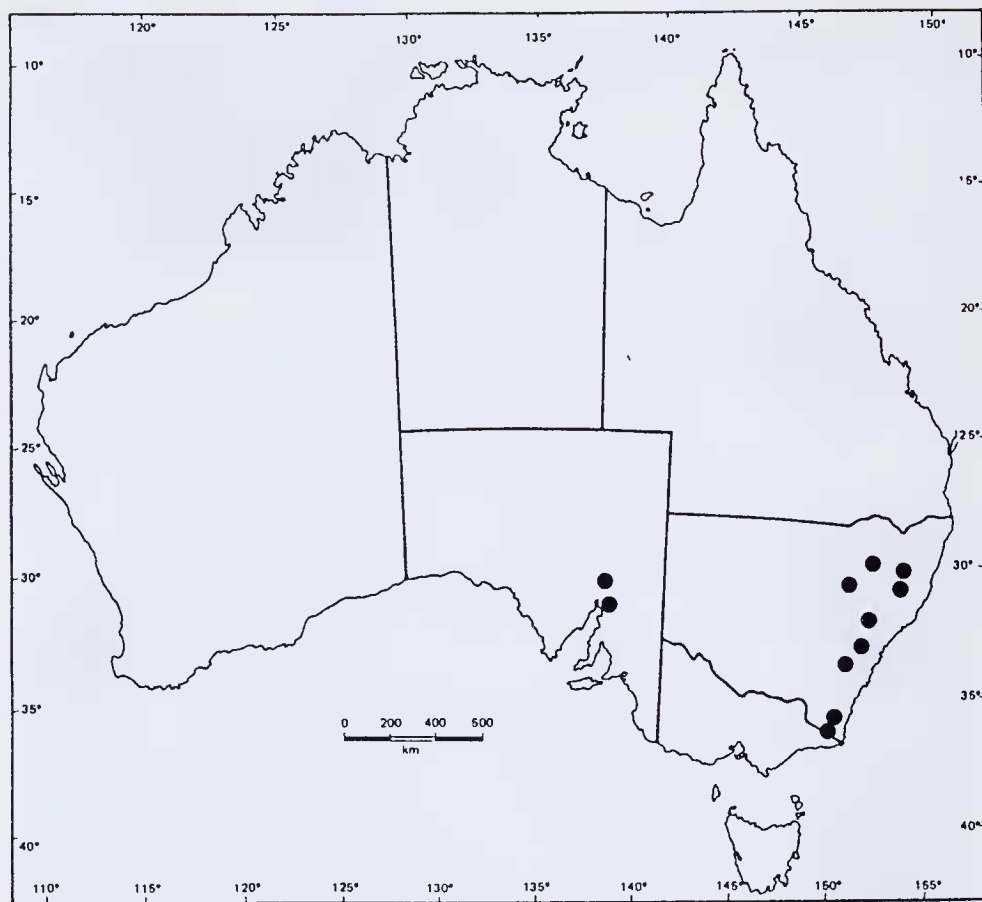


Fig. 2. The known distribution of *Hovea purpurea*.

C. Walter. As Walter was not renowned for the accuracy of his label data, I was reluctant to accept the occurrence of *H. purpurea* in Victoria on the basis of his collection. However, the occurrence of *H. purpurea* on the bank of the Genoa River just inside Victoria was confirmed after an intensive search by my colleagues David Albrecht, Neville Walsh and John Westaway in September 1988. (Fig. 2)

H. purpurea is recorded from a diversity of habitats throughout its distributional range. These vary from rocky alluvial ledges, boulder strewn slopes or Ordovician sediments near or above rivers, granite and sandstone outcrops, rocky slopes below sandstone outcrops, rocky skeletal spurs of metamorphic parent material to outcrops of conglomerate boulders. Recorded from tall Eucalyptus forest to open snow gum-manna gum woodland or grassy slopes with scattered trees, often in very broken country, and usually from altitudes of 240–900 metres except at Mt Kaputar where it is found up to 1380 metres.

REPRESENTATIVE SPECIMENS (total number examined 81):

South Australia — Southern Flinders Range, Mt Remarkable, c. 50 km SE of Port Augusta, 4.viii.1956, *H.M. Cooper s.n.* (AD 96413080); Flinders Range, Mt Brown summit, c. 20 km E of Port Augusta, 2.x.1958, *D.J.E. Whibley 410* (AD); Northern Flinders Range, St Mary's Peak, Wilpena, c. 40 km NNE of Hawker, 9.x.1960, *E.A. Shepley s.n.* (AD 96208169).

New South Wales — Northern Tablelands, Gara River, 14.5 km E of Armidale, 11.ix.1955, *G. Davis s.n.* (NSW 166552); Central Tablelands, Wiaborough Gap on Wiaborough Creek, 13.x.1985, *D.E. Albrecht* 2178 (MEL); Southern Tablelands, E face of Wog Wog Mt, 25.ix.1984, *D.E. Albrecht* 964 (MEL).

Victoria — East Gippsland, bank of Genoa River, 500 m downstream from its confluence with Yambulla Creek, 9.ix.1988, *N.G. Walsh* 2105, *D.E. Albrecht & J. Westaway* (MEL).

TYPIFICATION:

Mueller based his description of *H. beckeri* on material from “Ad latera petraeae montis Remarkable et adjacentium”. There are in MEL two sheets collected by Mueller in October 1851: the label of MEL 664285 bears the locality “ad latera montis Remarkable & adjacentium montium” and MEL 106347 is labelled as having been collected from “Mount Remarkable” and having formed part of Sonder’s herbarium. MEL 106347 consists of three twigs, one of which is sterile. The twig on the left hand side of the sheet has almost finished flowering and the distinctive persistent stamen-filaments and styles are much in evidence. The specimen on the right hand side has larger leaves and is at a slightly more advanced stage of development as very young pods are present. MEL 664285 also consists of three twigs each bearing some young pods which are a little more developed than those on MEL 106347. It is not clear whether the material on the two sheets was collected at the same time either from the same plant or from different plants or whether they were collected at different times. The protologue contains a detailed description of the flowers which was more likely to have been taken from MEL 106347 than the other sheet, whereas the brief mention of the pods was possibly taken from MEL 664285 in which the pods are a little more developed. MEL 106347 is clearly named “*Hovea Beckeri*” in Mueller’s hand in contrast to MEL 664285 which he has named “*Hovea longifolia*”. In order to obviate any confusion, MEL 106347 is here selected as the LECTOTYPE of *H. beckeri*.

NOTES:

H. purpurea is closely allied to *H. pannosa* and to *H. montana*. It was included by Bentham (1864) in his broad concept of *H. longifolia* under var. *pannosa*, and material from New South Wales was included by Thompson & Lee (1984) under *Hovea* “sp. Q” (i.e. *H. montana*) as a form “which appears to differ only in dimensions of the flower parts, especially of bract and bracteoles” from the typical form of the species.

On account of the affinities between *H. purpurea*, *H. pannosa* and *H. montana*, careful consideration was given to including the latter two taxa in a broad concept of *H. purpurea* and according each subspecific rank. However, despite the existence of an occasional specimen from eastern Victoria and Tasmania which is difficult to place, it seems appropriate to accord *H. pannosa* and *H. montana* specific rank.

H. purpurea appears to be a relatively uniform taxon, and this is especially the case in the isolated South Australian populations. *H. purpurea* is distinguished by having large flowers in which the standard is 11.5–17 mm long including a basal claw 3–5.5 mm long and is usually longer than broad, keel petals which are consistently almost as long as to occasionally slightly longer than the wing petals (0.95–1.05 times as long as the wings), long stamen-filaments (8.5–16 mm long) and a long style (8–14 mm long) which usually persist and are conspicuous once the corolla has been shed, and by the large conspicuous obovate-oblong, oblong, obovate or broadly ovate concave or somewhat cymbiform bracts and bracteoles. This combination of characters differentiates *H. purpurea* from other species.

In *H. pannosa* and *H. montana* the flowers are invariably smaller. The standard is 7–11 mm long including a basal claw up to 3 (very rarely to 3.6) mm long and invariably broader than long so that the proportions of the standard are different to *H. purpurea*. The keel petals are consistently shorter than the wing

petals (0.60–0.91 times as long as the wings), the stamen-filaments and style are correspondingly shorter and not as conspicuous once the corolla has been shed, and the bracts and bracteoles, with few exceptions, are smaller and differently shaped.

Apart from the above, *H. purpurea* differs from *H. montana* in habit:

the former is usually a larger shrub with erect stems in contrast to the latter which is usually a small shrub less than a metre high with the outer stems somewhat decumbent or sometimes soboliferous. *H. montana* tends to grow at higher altitudes (1220–1830 metres) on mainland Australia than *H. purpurea* where it is an important component of subalpine heaths.

H. pannosa is an exceedingly polymorphic species widespread in Queensland, New South Wales and Victoria, and the range of variation encountered within it is so great that it tends to obscure the limits of some of the other species.

A variant of *H. pannosa* occurs in eastern Victoria (for example, at the Buchan River Gorge near Native Dog Flat) which has large bracts and bracteoles reminiscent of those found in *H. purpurea*. However, such specimens have all of the other floral attributions of *H. pannosa* rather than of *H. purpurea* and consequently are referred to *H. pannosa*. Another variant from Mt Elizabeth in eastern Victoria and in Tasmania is difficult to place with certainty but, on account of its floral characters, is referred to *H. pannosa* rather than to *H. purpurea*.

HOVEA PANNOSA CUNN. EX HOOK.

Hovea pannosa Cunn. ex Hook., Bot. Mag. 58: t.3053 (1831); Beadle, Evans & Carolin, Fl. Sydney Region 3rd edn: 300 (1982). *H. longifolia* R. Br. var. *pannosa* (Cunn. ex Hook.) Benth., Fl. Austral. 2: 173 (1864) *pro maiore parte* excl. syn. *H. purpurea* Sweet. LECTOTYPE (here selected): Cunningham specimen in Herbarium Hookerianum (K).

Hovea villosa Lindley in Edwards's, Bot. Reg. 18: t.1512 (1832). LECTOTYPE (here selected): specimen in Lindley's Herbarium (CGE).

Hovea ramulosa Cunn. ex Lindley in Edwards's, Bot. Reg. 29: sub t. 4 (1843). LECTOTYPE (here selected): "Upper branches of the Brisbane River Moreton Bay 1829", Cunningham 35 (CGE; ISOLECTOTYPES: BM, G, K).

Hovea purpurea sensu Thompson & Lee in Lee & Thompson, Fl. New South Wales 101(2): 137 (1984), *non* Sweet.

Lindley based his description of *H. villosa* on a plant cultivated in the nursery of Messrs Rollissons of Tooting grown from seed from New South Wales. Lindley noted how *H. villosa* differed from *H. purpurea* but strangely made no mention in the protologue of *H. pannosa*. *H. villosa* is in fact a much more villous and robust variant of the taxon described the previous year by Hooker under the name *H. pannosa*. There is in Lindley's herbarium at CGE a sheet bearing the name *H. villosa* upon which two specimens are mounted. The smaller specimen has written on the sheet to the right of the base of the specimen "Hort Rollisson 1832", and "*Hovea villosa* BReg 1512" is written on the sheet in the bottom right hand corner. This sheet clearly represents type material and I here select the larger of the two specimens as the LECTOTYPE of *H. villosa*.

H. ramulosa was based on a Cunningham specimen collected from the upper branches of the Brisbane River, Moreton Bay in 1829. *H. ramulosa* clearly falls within the range of variation of *H. pannosa* and is a synonym of the latter species. The Cunningham specimen named *H. ramulosa* preserved in Lindley's herbarium at CGE numbered 35 and labelled "Upper branches of the Brisbane River Moreton Bay 1829" is here selected as the LECTOTYPE of *H. ramulosa*. A Cunningham specimen in BM labelled "35 Moreton-bay 1829", one in K presented by the Linnean Society and labelled "Upper branches of Brisbane R., N. S. Wales July 35/1829" and one in G labelled "Upper branches of the Brisbane

River Moreton-bay N. S. Wales 1829" and "35/1829" are ISOLECTOTYPES. The Cunningham sheet in K numbered 34 from the Brisbane River is a probable SYNTYPE. The specimen in W labelled "Hovea ramulosa C. Upper branches of the Brisbane River Moreton-bay N.S. Wales 1829" is referable to *H. lanceolata*.

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